Environmental distribution

Samples were collected from DWB treated plots for analysis. However, given that poor efficacy was observed in field experiments the questions of environmental distribution were placed on a lower priority with greater time and effort directed toward Objective 1. Furthermore, we learned that Dr. Shawn Askew at Virginia Tech was concluding off-target movement and worker exposure studies with the wet-blade mower system demonstrating significant reductions in worker exposure compared to traditional spray application systems.

Objective 3:

Biological Control of Stem Re-sprouting with *Chondrostereum purpureum* (Chontrol™)

Three field trails were established to evaluate the effectiveness of an endemic fungus, *Chondrostereum purpureum* (Chontrol™), as a biological control agent for the prevention of cut-stem re-sprouting.

In April 2005, a plantation was established in Goldsboro, NC, with eight rows of approximately 100 trees each of red maple (*Acer rubrum*), tulip poplar (*Liriodendron tulipifera)*, and sweet gum (*Liquidambar styraciflua*). Five treatments were applied in November 2005: cut only, cut stump treatment with Garlon 3A (50% v/v), cut stump treatment with Chontrol paste, cut stump treatment with Chontrol liquid, and wet-blade application with Chontrol liquid. The experimental design was a randomized complete block design with four single stem replications per tree species. The study was repeated in December 2006 on new stems.

In a separate, but related experiment, a plantation was established in March 2005 at the North Carolina State University's Horticultural Field Lab in Raleigh, NC, with Chinese wisteria (*Wisteria chinensis)*, princess tree (*Paulownia tomentosa),* and Chinese privet (*Ligustrum sinense*). Five treatments were applied in November 2005: cut only, cut stump treatment with Garlon 3A (50% v/v), cut stump treatment with Chontrol paste, cut stump treatment with Chontrol liquid, and wet-blade application with Chontrol liquid. The experimental design was a randomized complete block design with eight single stem replications for Chinese privet and Chinese wisteria and six single stem replications for princess tree. The study was repeated in December 2006 on new stems. The re-growth heights of the princess tree and Chinese privet and percent control of Chinese wisteria were recorded 12 months after treatment.

In December 2005, a study was established in Chapel Hill, NC on a natural stand of oriental bittersweet (*Celastrus orbiculatus).* Five treatments were applied: cut only, cut stump treatment with Garlon 3A (50% v/v), cut stump treatment with Chontrol paste, cut stump treatment with Chontrol liquid, and wet-blade application with Chontrol liquid. The oriental bittersweet vines were classified into three categories: small (0 to 0.5" diameter), medium (0.5 to 1.5"), and large (1.5 to 3"). The experimental design was a randomized complete block design with four replications with one small, medium, and large vine per plot. The vine re-growth length was measured 12 months after treatment.